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10/791,544	03/03/2004	Song-yean Cho	Q79871	3298

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EXAMINER	
BOKHARI, SYED M	
ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,544	CHO ET AL.	
	Examiner	Art Unit	
	SYED BOKHARI	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on March 23rd, 2009 has been entered. Claims 1, 6, 11 and 19 have been amended. Claims 1-28 are still pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-6, 8-11, 13, 17-19, 21 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (USP 184,421 B1) in view of Flammer, III (US 5,4888,608).

Liu et al. discloses a communication system for techniques that use network topology information to build and maintain a dynamically ad-hoc network with the following features: regarding claim 1, a system for reliably broadcasting a data packet under an ad-hoc network environment, the system comprising (Fig. 1, controlled flood multicast network nodes in ad-hoc network environment, see “ad-hoc network capable of efficiently routing both multicast and unicast traffic” recited in column 2 lines 59-66); a comparing unit which compares a first relay node sequence number with a second relay node sequence number, the first relay node sequence number being contained in a management packet received by at least one node transmitting the data packet , the second relay node sequence number being stored in a neighbor table of the at least one node (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22) and a control unit which determines whether or not the data packet is retransmitted to the destination node by the at least node according to a result of the comparison (Fig. 2B, a typical CFM communication node, see “ the

node uses a controlled-flood technique to dynamically determine whether it should rebroadcast a flooded message based upon the present state" recited in column 5 lines 46-59); regarding claim 4, wherein the data packet includes at least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay node sequence numbers (Fig. 17, processing a probe-request or probe-reply message, see "unicast message includes node identifier, a sequence number, a relay list" recited in column 28 lines 30-45); regarding claim 5, wherein the data packet includes at least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay node sequence numbers (Fig. 15, CFM technique by which a CFM node processes a controlled flood message, see "update the receiving CFM node link cache using relay list information contained in received message" recited in column 24 lines 57-65); regarding claim 6, a system for reliably broadcasting a data packet under an ad-hoc network environment, the system comprising (Fig. 1, controlled flood multicast network nodes in ad-hoc network environment, see "ad-hoc network capable of efficiently routing both multicast and unicast traffic" recited in column 2 lines 59-66), a determining unit which determines whether or not at least one node that receives the data packet is a relay node which transmits the received data packet to other neighboring nodes (Fig. 13, technique by which node determines whether to transmit data to neighbors" recited in column 23 lines 1-20); a comparing unit which compares a first relay node sequence number with a second relay node sequence number the first relay node sequence number being contained in a management packet which is received by at least one node that transmits a the data packet to the destination node, the second relay node

sequence number being stored in a neighbor table of the at least one node that transmits the data packet (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22) and a control unit which determines whether or not the data packet is retransmitted to the destination node by the at least one node that transmits the data packet according to a result of the comparison (Fig. 2B, a typical CFM communication node, see " the node uses a controlled-flood technique to dynamically determine whether it should rebroadcast a flooded message based upon the present state" recited in column 5 lines 46-59); regarding claim 9, wherein the data packet includes at least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay node sequence numbers (Fig. 17, processing a probe-request or probe-reply message, see "unicast message includes node identifier, a sequence number, a relay list" recited in column 28 lines 30-45); regarding claim 10, (Fig. 15, CFM technique by which a CFM node processes a controlled flood message, see "update the receiving CFM node link cache using relay list information contained in received message" recited in column 24 lines 57-65); regarding claim 11, a method for reliably broadcasting a data packet under an ad-hoc network environment, the method comprising (Fig. 1, controlled flood multicast network nodes in ad-hoc network environment, see "ad-hoc network capable of efficiently routing both multicast and unicast traffic" recited in column 2 lines 59-66), broadcasting the data packet to neighboring nodes (Fig. 13, technique by which node determines whether to transmit data to neighbors" recited in column 23 lines 1-20), comparing a first relay node

sequence number with a second relay node sequence number the first relay node sequence number being contained in a management packet received from the neighboring nodes the second relay node sequence number being stored in a neighbor table of a broadcasting node which broadcast broadcasting the data packet to the neighboring nodes (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22) and determining whether or not the data packet is retransmitted to the neighboring nodes by the neighboring nodes according to a result of the comparison (Fig. 2B, a typical CFM communication node, see “if the designated destination matches the identifier of the receiving node, the message is forwarded” recited in column 29 lines 30-38); regarding claim 13, wherein the step of comparing comprises receiving the management packet from the neighboring nodes (Fig. 18, technique for forwarding CFM unicast message, see "when a node receives a unicast message" recited in column 29 lines 26-27) and comparing the first relay node sequence number contained in a received management packet with a second relay node sequence number stored in a neighbor table of the node broadcasting the data packet (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22); regarding claim 17, wherein the data packet includes at least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay node sequence numbers (Fig. 17, processing a probe-request or probe-reply message, see “unicast message includes node identifier, a

sequence number, a relay list" recited in column 28 lines 30-45); regarding claim 18, wherein the neighbor table is updated on the basis of information of the management packet each of the predetermined number of times (Fig. 15, CFM technique by which a CFM node processes a controlled flood message, see "update the receiving CFM node link cache using relay list information contained in received message" recited in column 24 lines 57-65); regarding claim 19, a method for reliably broadcasting a data packet under an ad-hoc network environment, the method comprising (Fig. 1, controlled flood multicast network nodes in ad-hoc network environment, see "ad-hoc network capable of efficiently routing both multicast and unicast traffic" recited in column 2 lines 59-66), checking whether at least one node operable to receive the data packet is a relay node, as a result of checking, when the node is a relay node, broadcasting the data packet to neighboring nodes (Fig. 13, technique by which node determines whether to transmit data to neighbors" recited in column 23 lines 1-20), comparing a first relay node sequence number with a second relay node sequence number the first relay node sequence number being contained in a management packet which each of the neighboring nodes transmits the second relay node sequence number being stored in a neighbor table of the at least one node (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22) and determining whether or not the data packet is retransmitted to the neighboring nodes according to a result of the comparison (Fig. 2B, a typical CFM communication node, see "if the designated destination matches the identifier of the receiving node, the message is

forwarded" recited in column 29 lines 30-38); regarding claim 21, wherein the step of comparing comprises receiving the management packet from the neighboring nodes (Fig. 18, technique for forwarding CFM unicast message, see "when a node receives a unicast message" recited in column 29 lines 26-27) and comparing the first relay node sequence number contained in a received management packet with a second relay node sequence number stored in a neighbor table of the at least one node (Fig. 18, technique for forwarding CFM unicast message, see "comparing the sequence number and node identifier against the stored list" recited in column 29 lines 26-32 and column 14 lines 11-22); regarding claim 25, wherein the data packet includes at least one of Internet protocol addresses of the neighboring nodes, relay nodes, link status, and relay node sequence numbers (Fig. 17, processing a probe-request or probe-reply message, see "unicast message includes node identifier, a sequence number, a relay list" recited in column 28 lines 30-45); regarding claim 26, wherein the neighbor table is updated on the basis of information of the management packet each of the predetermined number of times (Fig. 15, CFM technique by which a CFM node processes a controlled flood message, see "update the receiving CFM node link cache using relay list information contained in received message" recited in column 24 lines 57-65); regarding claim 27, further comprising the step of; as a result of checking, when the node is not the relay node, storing information of the received data packet in the neighbor table (Fig 18A, technique for forwarding CFM unicast message, see "message is copied and stored step 424" recited in column 28 lines 59-67) and regarding claim 28, wherein the management packet is transmitted by a node which receives the data packet

transmitted by the at least one node (Fig. 18, technique for forwarding CFM unicast message, see "comparing the message sequence number and originating node identifier and the forward the message" recited in column 29 lines 30-33).

Liu et al. do not disclose the following features: regarding claim 1, the memory unit which stores information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number; regarding claim 3, wherein the memory unit comprises the neighbor table wherein the neighbor table is updated on the basis of information of the management packet received by the at least one node; regarding claim 6, the memory unit which stores information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number; regarding claim 8, wherein the memory unit comprises the neighbor table wherein the neighbor table is updated on the basis of information of the management packet received by the at least one node; regarding claim 11, storing information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number; regarding claim 19, storing information of the data packet before the data packet is transmitted, wherein the information of the data packet comprises the second relay node sequence number.

Flammer, III discloses a communication network for routing data packet where the best paths between nodes are stored in a routing table generated at each node with the following features: regarding claim 1, the memory unit which stores information of

the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number (Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 46-67 and column 4 lines 1-6); regarding claim 3, wherein the memory unit comprises the neighbor table wherein the neighbor table is updated on the basis of information of the management packet received by the at least one node (Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 65-67 and column 4 lines 1-6); regarding claim 6, the memory unit which stores information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number(Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 46-67 and column 4 lines 1-6); regarding claim 8, wherein the memory unit comprises the neighbor table wherein the neighbor table is updated on the basis of information of the management packet received by the at least one node (Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 65-67 and column 4 lines 1-6); regarding claim 11, storing information of the data packet before the data packet is transmitted to the destination

node, wherein the information of the data packet comprises the second relay node sequence number (Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 46-67 and column 4 lines 1-6); regarding claim 19, storing information of the data packet before the data packet is transmitted, wherein the information of the data packet comprises the second relay node sequence number (Fig. 1, a block diagram illustrating a general data network topology, see "node W stores that information in a routing table and before transmitting the packet checks its routing table" recited in column 3 lines 46-67 and column 4 lines 1-6).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the system of Liu et al. by using the features, as taught by Flammer, III, in order to provide the memory unit which stores information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number, the memory unit comprises the neighbor table wherein the neighbor table is updated on the basis of information of the management packet received by the at least one node. The motivation of using these functions is to enhance the system in a cost effective manner.

6. Claims 2, 7, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (USP 184,421 B1) in view of Flammer, III (US 5,4888,608)

as applied to claims 1, 6, 11 and 19 above, and further in view of Ogier (US 7,031,288 B2).

Liu et al. and Flammer, III discloses the claimed limitations as described in paragraph 5 above. Liu et al. and Flammer, III do not disclose the following features: regarding claim 2, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number and the resulting sequence number is included in the data packet; regarding claim 7, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number and the resulting sequence number is included in the data packet; regarding claim 12, wherein the step of broadcasting comprises adding "1" to the second relay node sequence number which is stored in the neighbor table of each of the neighboring nodes, adding the resulting relay node sequence number and predetermined information to the data packet, and regarding claim 20, wherein the step of broadcasting comprises adding "1" to the second relay node sequence number which is stored in the neighbor table of each of the neighboring nodes adding the resulting relay node sequence number and predetermined information to the data packet.

Ogier discloses a communication system for discovering new neighbor nodes and detecting the loss of existing neighbor nodes with the following features: regarding claim 2, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number (Fig. 1, mobile internet working system, see “sequence number is incremented each time a new broadcast packet is transmitted”

recited in column 15 lines 39-41) and the resulting sequence number is included in the data packet (Fig. 1, mobile internet working system, see “include the broadcast sequence number to allow neighbor nodes to process the update message” recited in column 15 lines 52-60); regarding claim 7, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number (Fig. 1, mobile internet working system, see “sequence number is incremented each time a new broadcast packet is transmitted” recited in column 15 lines 39-41), the resulting sequence number is included in the data packet (Fig. 1, mobile internet working system, see “include the broadcast sequence number to allow neighbor nodes to process the update message” recited in column 15 lines 52-60); regarding claim 12, wherein the step of broadcasting comprises adding "1" to the second relay node sequence number which is stored in the neighbor table of each of the neighboring nodes (Fig. 1, mobile internet working system, see “sequence number is incremented each time a new broadcast packet is transmitted” recited in column 15 lines 39-41), adding the resulting relay node sequence number and predetermined information to the data packet (Fig. 1, mobile internet working system, see “include the broadcast sequence number to allow neighbor nodes to process the update message” recited in column 15 lines 52-60), and regarding claim 20, wherein the step of broadcasting comprises adding "1" to the second relay node sequence number which is stored in the neighbor table of each of the neighboring nodes (Fig. 1, mobile internet working system, see “sequence number is incremented each time a new broadcast packet is transmitted” recited in column 15 lines 39-41), adding the resulting relay node sequence number and predetermined

information to the data packet (Fig. 1, mobile internet working system, see “include the broadcast sequence number to allow neighbor nodes to process the update message” recited in column 15 lines 52-60).

It would have been obvious to one of the ordinary skills in the art at the time of invention to modify the system of Liu et al. with Flammer, III by using the features, as taught by Ogier, in order to provide the function of a control unit transmitting the data packet after adding "1" to the second relay node sequence number and including the resulting sequence number in the data packet. The motivation of using this function is to enhance the system functionalities in a cost effective manner.

7. Claims 14-16 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (USP 184,421 B1) in view of Flammer, III (US 5,4888,608) as applied to claims 11, 15, 19 and 23 above, and further in view of Riihinen et al. (USP 6,697,331 B1) and Zhu et al. (USP 5,768,527).

Liu et al. and Flammer, III disclose the claimed limitations as described in paragraph 5 above. Liu et al. also discloses the following features: regarding claim 16, wherein, when the first and second relay node sequence numbers are not equal, the neighbor table is updated with a relatively large relay node sequence number (Fig. 3, CFM technique for beacon transmission, see “if cluster-head is identified with a greater number of cluster-head, table is updated” recited in column 17 lines 22-37) and regarding claim 24, wherein, when the first and second relay node sequence numbers

are not equal, the neighbor table is updated with a relatively large relay node sequence number (Fig. 3, CFM technique for beacon transmission, see "if cluster-head is identified with a greater number of cluster-head, table is updated" recited in column 17 lines 22-37).

Liu et al. and Flammer, III do not disclose the following features: regarding claim 14, wherein the step of determining comprises as a result of the comparison, when the first and second relay node sequence numbers are equal, terminating transmission of the data packet; and when the first and second relay node sequence numbers are not equal to each other, retransmitting the data packet to the neighboring nodes and regarding claim 22, wherein the step of determining comprises: as a result of the comparison, when the first and second relay node sequence numbers are equal, terminating transmission of the data packet; and when the first and second relay node sequence numbers are not equal, retransmitting the data packet to the neighboring nodes.

Riihinen et al. discloses cellular communications for link layer acknowledgement and retransmission with the following features: regarding claim 14, wherein the step of determining comprises: as a result of the comparison, when the first and second relay node sequence numbers are equal, terminating transmission of the data packet (Fig. 8, poll timer start, restart and cancel conditions, see "if sequence number is greater than or equal to poll timer cancels and retransmission stops" recited in column 4 lines 9-15 and column 11 lines 17-33 and 25-26) and when the first and second relay node sequence numbers are not equal to each other, retransmitting the data packet to the neighboring

nodes (Fig. 8, poll timer start, restart and cancel conditions, see "if sequence number is greater then poll timer starts for retransmission" recited in column 4 lines 9-15 and column 11 lines 17-33) and regarding claim 22, wherein the step of determining comprises: as a result of the comparison, when the first and second relay node sequence numbers are equal, terminating transmission of the data packet (Fig. 8, poll timer start, restart and cancel conditions, see "if sequence number is greater than or equal to poll timer cancels and retransmission stops" recited in column 4 lines 9-15 and column 11 lines 17-33 and 25-26) and when the first and second relay node sequence numbers are not equal, retransmitting the data packet to the neighboring nodes (Fig. 8, poll timer start, restart and cancel conditions, see "if sequence number is greater then poll timer starts for retransmission" recited in column 4 lines 9-15 and column 11 lines 17-33).

It would have been obvious to one of the ordinary skills in the art at the time of invention to modify the system of Liu et al. with Flammer, III by using the features, as taught by Riihinen et al., in order to provide function of comparison so that when the first and second relay node sequence numbers are equal, terminating transmission of the data packet and when the first and second relay node sequence numbers are not equal to each other, retransmitting the data packet to the neighboring nodes. The motivation of using the function of comparison is to enhance the system functionalities in a cost effective manner.

Liu et al., Flammer, III and Riihinen et al. do not disclose the following features: regarding claim 15, wherein a number of times for retransmitting the data packet is set

to a predetermined number of times, and when the number of times the data packet has been retransmitted exceeds the set number of times, retransmitting the data packet is stopped and regarding claim 23, wherein retransmission of the data packet is set to occur a predetermined number of times, and when the number of times the data packet is retransmitted exceeds the set number of times, retransmitting the data packet is stopped.

Zhu et al. discloses a communication system for real time multimedia streaming with the following features: regarding claim 15, wherein a number of times for retransmitting the data packet is set to a predetermined number of times, and when the number of times the data packet has been retransmitted exceeds the set number of times, retransmitting the data packet is stopped (Fig. 3, multimedia streaming system, see "retransmission message includes number of copies for retransmission and for each retransmission request sent out a timer is started" recited in column 7 lines 50-59) and regarding claim 23, wherein retransmission of the data packet is set to occur a predetermined number of times, and when the number of times the data packet is retransmitted exceeds the set number of times, retransmitting the data packet is stopped (Fig. 3, multimedia streaming system, see "retransmission message includes number of copies for retransmission and for each retransmission request sent out a timer is started" recited in column 7 lines 50-59).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the system of Liu et al. with Flammer, III and Riihinen et al. by using the features, as taught by Zhu et al., in order to provide the function wherein a number

of times for retransmitting the data packet is set to a predetermined number of times, and when the number of times the data packet has been retransmitted exceeds the set number of times, retransmitting the data packet is stopped and regarding. The motivation of using the function of comparison is to enhance the system functionalities in a cost effective manner.

Response to Arguments

8. Applicant's arguments filed March 23rd, 2009 have been fully considered but they are not persuasive. Applicant states in the remarks regarding claim 1, "Liu fails to teach or suggest at least the claimed a control unit which determines whether or not the data packet is retransmitted to the destination node by the at least node according to a result of the comparison". Examiner respectfully disagrees. Liu teaches the claimed limitations "a control unit which determines whether or not the data packet is retransmitted to the destination node by the at least node according to a result of the comparison recited in column 5 lines 46-59". The CFM communication node dynamically determines whether it rebroadcast message based upon the present state of internally maintained network topology information.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED BOKHARI whose telephone number is (571)270-3115. The examiner can normally be reached on Monday through Friday 8:00-17:00 Hrs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Syed Bokhari/
Examiner, Art Unit 2416
6/23/2009

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2416